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ABSTRACT

This report addresses the implications of school course structures for levels of participation in post-compulsory education in Scotland. The report cites a 21.2% level of participation in higher education among the young in Scotland. The paper contends that the structure of the Scottish Highers examination and related examinations (the Ordinary and Standard grades, the National Certificate, and the Certificate of Sixth Year Studies) contributes to Scotland's voluntary participation rates being higher than those of Britain as a whole, principally by reconciling the conflicting demands of access and standards. The report: (1) reviews evidence and arguments concerning voluntary participation and attainment at school, and entry to higher education; (2) analyzes participation in S4 (fourth year, and, for the majority of pupils the final compulsory year), S5, and S6; (3) discusses courses and attainment in S5 and S6 and trends and comparisons in overall attainment; (4) examines destinations after school, mainly applications and entry to higher education, and considers attainment in higher education; (5) attempts to place the functions of the S5 Higher courses in the overall context of post-compulsory participation at the secondary and tertiary levels; and (6) considers what would happen to participation in higher education if the S5 Higher were discontinued, based on empirical research and natural quasi-experiments. (65 references) (JDD)

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HIGHERS AND HIGHER EDUCATION

Andrew McPherson
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HIGHERS AND HIGHER EDUCATION

A report to the Association of University Teachers (Scotland) on post-compulsory schooling in Scotland and entry to higher education

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Preface and acknowledgements

This report was commissioned in February 1990 by the Association of University Teachers (Scotland) (AUT(S)), with additional support from the Educational Trust Fund of the AUT, in anticipation of a government announcement of a review of the course structure of post-compulsory schooling in Scotland. The review was announced in March and takes the form of a committee chaired by John Howie, Professor of Mathematics at the University of St Andrews. The committee's remit is:

> to review the aims and purposes of courses and of assessment and certification in the fifth and sixth years of secondary school education in Scotland; to consider what structure of courses and what forms of assessment best satisfy these aims and purposes taking account of the needs of pupils of varying ability and background, the demands of employment and the requirements of and developments in higher and further education; and to recommend necessary changes. (SI0 1990)

The committee is due to report at the end of 1991. After its first meeting it invited responses to a list of questions, reproduced here as an Appendix. The questions became available to the authors of this report a matter of days before it was due for delivery. It has not been possible, therefore, systematically to consider the implications of our findings and arguments for these questions. We note, however, that none of the questions touches directly on the main issue that concerned AUT(S) in commissioning this work, namely student participation.

The present report is one of four to AUT(S) that address the implications of school course structures for the level of participation in post-compulsory education. Two, already completed, report mainly descriptive analyses of data on post-compulsory participation and entry to higher education (Robertson 1990a, 1990b). The fourth report will be completed before the end of 1990 and will describe the results of a statistical modelling of the effects of the structure of post-compulsory courses on levels of voluntary participation.

The purpose of the present report is to review evidence and arguments concerning voluntary participation and attainment at school, and entry to higher education. It is concerned with other issues, such as curriculum and pedagogy, only to the extent that they impinge on participation. Whilst the occasion and immediate focus

of the report is the case for change in Scotland, its implications are more extensive. This is because Scotland has already surpassed the level of participation in higher education - 21 per cent of young people - that Britain as a whole is currently projected to reach only towards the end of the century. It is important therefore to understand what features of the education system have sustained this achievement, and how the system might be affected by change.

Chris Robertson thanks the Economic and Social Research Council (ESRC) for its sponsorship of part of his work in this area under the ESRC Survey Link Scheme. The Centre for Educational Sociology (CES) is a Designated Research Centre of the ESRC and is grateful for this support. CES also thanks the Scottish Education Department and other government departments for their support of the Scottish Young People's Survey (SYPS). The SYPS is a survey series conducted jointly by CES and the SED and it produced many of the data on which this report draws. The authors are grateful to Lindsay Paterson for his comments on an earlier draft, and to Carolyn Newton for her word processing. The authors are grateful also to the officers and officials of the AUT for their advice in the course of the work.

The AUT commission was given jointly to the three authors at their respective institutions, and the authors alone are responsible for the views expressed herein. The views are not necessarily those of the authors' parent institutions, of other bodies of which the authors are members, of the sponsors of the studies described here, or of the AUT.

1. Introduction

1.1 Issues: access and standards in Scotland and Britain

The formal remit to Howie is quite broad, covering the whole of post-compulsory schooling. It does not, however, cover non-advanced further education (NAFE) which, as we shall see, is a route that some school leavers take on their way to higher education (HE). The immediate concern of AUT(S) relates to the numbers and quality of university entrants. In practice, however, the concerns of the universities, indeed of all higher education are in accord with Howie. Increased access to HE (more students), and wider access (a greater range of types of students), both require policies that encourage participation by rewarding success. Thus HE has an interest in all aspects of post-compulsory provision and in all of the factors that encourage voluntary participation.

International comparisons of levels of participation in HE are fraught with difficulty, and we are not especially qualified to comment on their validity. It is the government's view that, on the basis of the proportions of the relevant age groups gaining degrees and higher diplomas

> Britain is on a par with attainments in France and ahead of the rest of the European Community, though ... not as good as ... Japan and the USA. (Cm 114, para. 2.3)

A detailed review by Cerych (1983) confirms this view for earlier decades.

Levels of participation in HE among the young are higher in Scotland than in England and Wales. In 1988/89, the Scottish Age Participation Index (API - a measure of the proportion of under-21 year olds entering full-time HE) was 21.2 per cent, compared to 15.1 per cent in Britain as a whole (SED 1990b, Table 2; Interdepartmental Review 1990, Appendix A, Table 2). The Scottish advantage is longstanding and, on current projections, will increase to almost eight percentage points by 1993/94 (*ibid.*).

By European standards the level of participation in full-time education and training in the UK among 16 to 18 year olds is low (CBI 1989; DES 1990a, Table 2),

and it is especially low in England and Wales. Recent commentators agree that the A-level system and its articulation with O levels/GCSE are a major factor there. One writes that the A-level system

> is one of the most serious impediments to *both* wider participation *and* the solution of the problems of skills shortages. (Ball 1990, para 5.19 - emphases in original)

Others observe that

> (t)he education system instead of rewarding achievement is a process of failure.... A popular view has been that high failure rates are necessary to maintain standards. But the effectiveness of a system which, in effect, rejects at least 86 per cent of its products must be questioned. (Smithers and Robinson 1989, paras 1.10, 1.11)

Similarly Finegold, Keep, Miliband, Raffe, Spours and Young (1990, 4) have characterised the A-level system as one of 'early selection, low participation'. However, attempts, extending now over 25 years, to change the A-level system have all foundered on the question of standards, most recently that of the Higginson Committee (1988) which proposed a five-subject examination not dissimilar to Scottish Highers.

The Higher is a central topic in this review, for two main reasons. First, we contend that the structure of the Higher and related examinations (the Ordinary (O) and Standard (S) grades, the National Certificate (NC), and the Certificate of Sixth Year Studies (CSYS)) contributes to Scotland's higher voluntary participation rates, principally by reconciling in some measure the conflicting demands of access (success) and standards (failure). Second, it has been widely reported over many months that Howie is to consider replacing the one-year Higher course that can be taken initially in the first post-compulsory year with a course extending over the two years of post-compulsory schooling and examined for the first time at the Higher level at the end of sixth year (a 'two-year Higher'). We do not argue for or against this proposal as such. But we are concerned to identify the effects of the one-year Higher on participation, and the possible effects of its discontinuation.

1.2 Structure of this report

Section 2 of the report reviews participation in S4 (fourth year, and, for the majority of pupils the final compulsory year), S5 and S6. Section 3 discusses attainment at each of these stages, and overall. Section 4 examines destinations after school, but mainly applications and entry to higher education. It also considers attainment in HE. In each of these three sections both positions and trends are discussed. The ordering of the themes - participation, attainment, destinations - is for convenience and is not entirely a chronological or causal ordering. Post-compulsory participation, for example, is strongly influenced by attainment in S4; and both S5 attainment and the chances of entry to higher education influence participation in S6. Section 5 summarises the argument and discusses some of the issues. Readers might find it helpful to read the summary in section 5 first.

The review attempts to place the functions of the S5 Higher in the overall context of post-compulsory participation at the secondary and tertiary levels. It also addresses the counterfactual questions of 'what would happen to participation in HE if the S5 Higher were discontinued?' and 'what else would have to be done?'. Two types of answer are attempted. One is based on the argument that pupils, or at least many pupils, attempt to make decisions on a rational basis, and assess the costs, risks and benefits of the options that confront them. The argument is empirically supported by what pupils say and do and also by the weight of the research literature (Raffe 1984a, 1984b, 1988). The other type of answer is based on 'natural' 'quasi-experiments' that provide analogues for the counterfactual world in which the gap between the end of compulsory schooling and the first point of certification for higher education is changed. Three such analogues are used here: the comparison with England and Wales; an historical comparison; and the case of the 'conscripts to fifth year'. A fourth natural experiment is the subject of the fourth report.

2. Participation

2.1 The current position

Two thirds of Scottish pupils become eligible to leave school at the end of S4 (the 'summer eligibles'), and nearly all of the remainder (the 'conscripts to fifth year') at the end of the Christmas term of S5. Those who leave at the minimum age are highly unlikely to enter HE in the following three years. Half (50.4 per cent) of S3 pupils in Autumn 1985 continued voluntarily in S5 (the summer eligibles in August 1987, but those conscripted to S5 only voluntarily so in January 1988). A quarter of the S3 cohort (25.4 per cent) entered S6 in August 1988 (SED 1990a, Table 1).

National differences in the age of entry to schooling and in the institutional structure governing subsequent transitions make exact comparisons with England and Wales impossible (SED 1986; Raffe and Courtenay 1988). Nevertheless, it is clear that Scotland has a higher participation rate in full-time education after S4 (or after winter S5 for conscripts), than the English participation rate after fifth year. The national difference is not large - currently of the order of five percentage points (Raffe and Courtenay 1988). But Scotland has a more 'working class' population (Kendrick 1986), so the national difference would probably be larger if it were 'conditioned on' (observed for) pupils of similar social background.[1] More Scots leave school at the end of the first post-compulsory year (that is, the first post-O/S grade year). In the second post-compulsory year participation rates in full-time education are similar in the two systems. To make the comparison at this point, however,

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[1] On the other hand, if the national difference were conditioned on age, it would show very little Scottish advantage among 16 year olds. This is because Scottish year groups are some four or five months younger, on average, than their nearest English or Welsh equivalents. An age-based comparison would contrast Scottish pupils in S4 in a given year with a weighted combination of fourth- and fifth-year English and Welsh pupils from the same year. An age-based comparison would be appropriate if the propensity to participate were related to age rather than to institutional factors. However we believe that institutional factors - notably the timing of the O/S grade and the GCSE, the terminal certificates from compulsory schooling - are more important. Consequently we believe that the most appropriate comparisons of participation rates are based on school stages, and treat the first Scottish year after O/S grade (S5) as equivalent to the first English year after GCSE (first year of the Sixth Form), but discounting the 'conscript effect'. It is on this basis that Scotland has a five percentage point advantage in its first 'post-O/S grade' year.

is to compare a Scottish system in which the transition to higher education or the labour market has already become possible for pupils holding terminal school qualifications (at the end of S5) with an English and Welsh system in which it has not. Measured later, for those under 21 years, Scottish participation in HE is considerably higher, as we have seen.

As well as differences in levels of participation, there are also national differences in location. Many more Scottish 'stayers' remain at school and in touch with the academic mainstream. (Some of the English students who enter college at 16 years take academic courses, but these account for little more than a quarter of FE students at 16 years (Gray and Sime forthcoming).) Presentation for Highers from an FE college before 18 years is discouraged. In contrast to England, most school-leaver entrants to non-advanced further education (NAFE) in Scotland have already stayed on for one or two extra years at school. Scottish NAFE tends to be 'end-on' to post-compulsory schooling, and not an alternative to it. There is an 'indirect' route to HE via full-time NAFE. From the 1983/84 S4 cohort, about seven per cent of the entrants to HE by Autumn 1987 had entered by this route, but most had first stayed on into S5 and taken Highers at school (Robertson 1990b, and section 4.1 below).

These national differences in levels of participation are commonly attributed to the effect of the fifth-year Higher (Wishart 1980; SED and SEB Working Group 1982, para. 3.5.4). The argument in terms of costs, risks and benefits to the pupil can be stated as follows: the S5 exit point encourages higher post-compulsory participation because, for those pupils who plan to leave from S5 rather than S4, it cuts the expected cost of not leaving at the minimum age, and also adds a further earning year to life-time earnings. Moreover, the one-year Higher plays a part in a system of certification that gives the Scottish pupil far greater choice; not only choice of subjects, but also choice of the level and phasing of difficulty of post-compulsory courses. The greater degree of choice reduces the risk to pupils that they will commit themselves to courses that will prove unrewarding either in content or in outcome; and, in any case, the risk need be taken only for one year at a time, not two.

Much of the evidence on levels and patterns of participation, and on pupils' perceptions and intentions, supports this argument.

2.2 Staying to S5 and to S6

Attainment in S4 is the largest single correlate of voluntary continuation in S5 (Ryrie 1981; Raffe and Willms 1989). There is some evidence that a prior decision to stay on at school may itself boost the level of S4 attainment (Willms and Kerr 1987). Nevertheless, S4 attainment can also be regarded, not just as a correlate, but also as a major cause of voluntary continuation. Of the S4 cohort in 1987/88, 52 per cent are estimated to have stayed voluntarily to S5, the percentages increasing stepwise from 17 per cent of those with no S4 O/S grades at 1-3, to 90 per cent of those with five or more of such awards. Girls (57 per cent) were more likely to stay on than boys (47 per cent), in part because of their slightly superior S4 attainment, but also because of a separate 'gender effect' at each level of S4 attainment. This effect was greater for pupils with three or four awards than for those with fewer or more.[2]

Middle-class pupils (with fathers in non-manual occupations) are more likely to stay on than working-class pupils. This difference arises mainly from a large social-class difference in attainment in S4. Given S4 attainment, there is an additional social-class 'effect' on voluntary participation, the size of which varies according to S4 attainment. Among pupils with fewer than two O-grade awards at 1-3 the social-class effect is trivial; for those with two, three or four awards, the effect is largest, the middle-class continuation rate being about 20 percentage points higher; whilst for pupils with five or more awards the middle-class advantage is about 12 percentage points at each level of S4 award.[3]

Two implications of the size and pattern of these effects are relevant. First, the gender and social-class effects are smaller than the effects of S4 attainment. Anything that can be done to improve S4 attainment is therefore likely to benefit voluntary participation. This of course is not easy. But what has been easier, at least under the Scottish system to date, is to ameliorate the effects of poor performance in S4 by giving weaker pupils longer to achieve fixed levels of attainment whilst remaining within the academic mainstream.

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[2] Unpublished analyses of the Scottish Young People's Survey by D.Raffe, March 1990.

[3] Unpublished analyses of leavers in 1985/86 by C.Garner and A.F.McPherson.

Second, it is striking that the gender and social-class effects, though relatively small once S4 attainment is allowed for, are largest for pupils of middling S4 attainment. It is also among these 'middling' pupils, those with two, three or four S4 awards, that voluntary participation is most sensitive to the effects of the opportunity structure, to the availability of desirable openings in the areas of the labour market and of further education. An example from each of these two areas follows.

Raffe and Willms (1989) have shown that rates of staying on at school, other things being equal, are increased by higher levels of local unemployment, and that this effect is greater for pupils with three to six S4 O grade awards at 1-3 than for pupils with more or fewer awards. This illustrates the counter-attractions provided by the British labour market, with its tradition of recruitment at 16 years, and how its pull on 16-year olds is particularly strong for middling pupils. Another labour-market factor that inhibits early leaving is a high proportion of higher level jobs in a locality which require educational qualifications (*ibid.*). Also, the withdrawal of unemployment benefits from 16 and 17 year olds may have a similar effect.

The educational example described here is the 'conscript effect' mentioned earlier, and it constitutes one of the best available analogues for the counterfactual situation of a changed examination structure. The youngest third of S4 pupils becomes eligible to leave only in December of their fifth year. For this third the elapsed time between the point of first eligibility to leave and first presentation for Highers is reduced by one term, or about half of the S5 Highers course. The shorter elapsed time is analogous to the shorter time entailed in a one-year as opposed to a two-year Highers course. It is of interest, therefore, that conscripts have higher voluntary S5 completion rates (SED 1986; Raffe and Willms 1989); and that conscription boosts S5 participation and attainment most among pupils with middling qualifications from S4, and in schools with below-average staying on rates (Yibas and Robertson 1988; McPherson and Robertson 1989). The removal of a fifth-year Higher could depress participation rates directly by ending or attenuating the conscript effect. Furthermore, the conscript effect itself indicates that the removal of the fifth-year Higher could depress participation generally unless a credible alternative were substituted.

The 'conscript' and labour-market effects on voluntary participation are consistent with an explanation of voluntary participation in terms of cost, benefit and risk: pupils with few S4 qualifications have little chance of success in S5; pupils with many S4 qualifications run little risk of failure. It is among middling pupils that the opportunity structure, including the structure of examinations, will do most to boost or depress participation rates.

Such an explanation assumes that pupils (or, at least, many pupils) pursue qualifications and think them useful for entry to jobs and FE/HE. This assumption is strongly supported by what pupils say. Their reasons for continuing voluntarily in S5 are dominated by the wish for further qualifications, whether for HE, NAFE, or for jobs. This is true both of pupils who eventually continue to S6 and of those who leave at the end of S5; true both of those who eventually qualify for HE with three or more Highers passes, and of those who do not (Tomes 1988; see also McPherson 1984a).

The pursuit of additional qualifications poses two sorts of uncertainty for pupils: over how well they will do at school, and how well they need to do if they are to achieve their objectives after school. These uncertainties too are reflected in what they say. Questioned after the event, around a third of voluntary entrants to S5 recalled that they made their initial decision to stay without at that stage committing themselves to two post-compulsory years; about a third initially intended only one year; and only about one third were initially committed to two years (McPherson 1984a). Since around half of the S5 volunteers stay to S6 it is clear that many pupils revised their intentions during fifth year (indeed, almost half did so).

With two important *caveats*, one may conclude that the decision to stay for a sixth year is driven by the same considerations that motivate the decision to stay to S5. The *caveats* are first, that well qualified S5 pupils have the option of direct entry to HE; and, second, that this option is exercised more often in Strathclyde Region - we return to these points below.

In general, however, the greater the success at the end of S5, the greater the probability of a return to S6. Outwith Strathclyde this is true for all levels of S5 Highers

attainment. In Strathclyde it is true only up to the threshold qualifications for entry to HE; above that level well qualified S5 pupils are as likely to leave school as to return (McPherson 1984b; Robertson 1990a and 1990b).

Most entrants to S6 stay on primarily because they want better qualifications (Flett, Jones and McPherson 1972; McPherson 1984b; Tomes 1988). Half firmly believe that their S5 qualifications are inadequate, and a further quarter are uncertain. Only a quarter believe that they have already achieved the qualifications they need (McPherson 1984b). Not surprisingly, a third stay on in part because they have not decided on their future education or career (Tomes 1988).

Overall, the picture is one of incremental decision-making by pupils in pursuit of qualifications, guided by examination evidence on academic potential but accompanied, nevertheless, by considerable uncertainty and change of intention. Further evidence for this conclusion emerges in the course of our discussion of trends in participation.

2.3 Trends in voluntary participation at school

2.3.1 Historical evidence

'Intermediate' examinations commonly have an external value in their own right but also act as a stepping stone to superior educational qualifications. Such examinations have in the past made important contributions to voluntary participation in Scotland. Before the First World War, the Intermediate Certificate, taken after a two- or three-year post-primary course, contributed to the increase in Highers presentations in the early years of this century. Highers presentations increased more slowly between the Wars, however, because SED discontinued the Intermediate Certificate in the name of 'raising standards'. This decision was widely criticised for breaking with a Scottish tradition of generous access to higher education and was resisted by schools, teachers and the local authorities (Wade 1939, chapter VI).

The O-level arrived in England and Wales after the Second World War, but the SED persisted for some years in its belief that Scotland did not need an 'intermediate' examination. When the SCE O-grade was finally introduced in 1962, it had an immediate and dramatic effect on post-compulsory participation and on the proportions

of pupils taking Highers. Less than 15 per cent of the age group took Highers in 1961. By 1970 the proportion was 25 per cent. In eight years a gain of more than ten percentage points was made, as much as had been achieved in the previous four decades. Significantly, schools and pupils disregarded the SED injunction that pupils intending Highers should 'by-pass' presentation at O-grade. They wanted the intermediate qualification of the O-grade both as an insurance and as a bridge to the next level. In much the same way, pupils in England and Wales, we understand, are currently tending to present for AS levels at the end of the first-year sixth, and are disregarding the recommendation that AS levels be presented only at the end of the second year.

The O-grade had its effect on participation in a system where there had previously been a two-year gap between the end of compulsory schooling (S3 or around 15 years) and the first point of certification, namely Highers in S5. If a two-year Higher meant that such a gap were to reappear, because there were no certified exit point from S5, participation rates could suffer.

2.3.2 Recent trends in participation in S5

The level of voluntary participation in S5 has increased more or less continuously since the raising of the school leaving age (RSLA) in 1972/73 (Burnhill 1984), though not always at the same rate. Coinciding with the collapse in the youth labour market, there was a particularly sharp jump from 37.0 per cent in 1980 to 41.8 per cent in 1981 and to 44.1 per cent in 1982. In the next two years the rate of growth slowed, but it steepened in 1985 and has been at roughly two percentage points each year since then (SED 1990a, Table 1). This phasing suggests a labour-market effect, but also other factors making for a sustained increase in participation irrespective of short-term variations in the rate of change.

Four such factors are easily identified. First, as a result of changes in school entry arrangements that were implemented in different years in different Regions, the proportion of conscripts in the age group has been rising, to reach a ceiling of roughly one third of pupils at which it will now remain (because it is now over a decade since all Regions implemented the change). Conscripted pupils contribute to the S5 voluntary participation rate only when they make their decision at Christmas to stay or leave. But that rate has risen in the past because conscripts have been a rising proportion of

the year group and because there is a 'conscript effect' on voluntary participation (section 2.2). Because the proportion of conscripts has reached its ceiling, future changes in the S5 voluntary participation rate will not be open to explanation in these terms.

Second, school practice and school reform have boosted levels of S4 attainment as well as the propensity to stay on after S4. It is not necessary for present purposes to attempt to disentangle the various contributions here: among them are RSLA itself and comprehensive reorganisation (McPherson and Willms 1987). It is possible that the introduction of National Certificate (NC), and the Technical and Vocational Education Initiative (TVEI) have raised participation, although the research so far on these initiatives suggests that they may have encouraged participation in the Youth Training Scheme (YTS) more than in full-time education. Early evidence on Standard Grade suggests that it too may have boosted attainment, if only by giving less able pupils access to certification in areas of the curriculum such as mathematics and science that their predecessors had found difficult (Croxford 1990). In England it has been claimed that GCSE, even when it has not increased levels of 'real' attainment, has nevertheless boosted staying-on. Pupils have based their decisions on traditional perceptions of the link between certification and staying-on, and have not fully allowed for the devaluation of certificates when unchanged levels of 'real' attainment are rewarded by apparently higher levels of certification. This phenomenon, analogous to the economic concept of 'false trading', may also have occurred in relation to Standard grade in Scotland.

A third and major factor is the rising level of parental education. Any experience of post-compulsory schooling among parents tends to boost filial attainment, and to do so 'net of' other social differences such as those related to parental occupation. The effect of parental education is substantial and has remained substantial over a period of some ten years in which the proportion of parents having some experience of post-compulsory schooling has rapidly increased (Burnhill, Garner and McPherson 1990). This increase will be sustained, if not accelerated, for the foreseeable future and will help to improve levels of participation and attainment. It may also be that this tendency will be reinforced by the shift in the occupational structure towards more non-manual employment.

Fourth, during the 1970s the tendency for females to leave school from S5 rather than S6 disappeared. Slightly more females than males now leave from S6 (SED 1986, Table 2).

Several further comments are pertinent here. First, the increase in voluntary S5 participation is associated with pervasive social and educational changes that are also raising the level of S4 attainment, itself a factor that drives voluntary participation. This suggests that the underlying trend of the past two decades will continue whatever short-term changes there may be in the youth labour market, for example, changes consequent upon demographic decline.

Second, the rate of increase in voluntary participation has been larger and more continuous in Scotland than in England during the 1980s. Indeed, 16 year-old participation rates in England were static for much of the decade, and not until 1989 did they exceed the level achieved by 1983 (DES 1990b, Table 6).

Third, the rise in voluntary participation has led to considerable change in the ability composition and latent purposes of fifth year. Both are now more 'mixed', and this heterogeneity has been directly increased by the rise in the proportions of the S4 year group who are conscripts. 'Conscripts' swell the proportions of the S4 year group returning for at least one term in S5. In 1987 this proportion stood at 62.4 per cent (this figure comprising all the 'conscripts' plus the volunteers from among the 'summer eligibles' (SED 1990a, Table 1)). We discuss the implications of the mixed fifth year for curriculum and certification in section 3.2.

2.3.3 Trends in participation in S6

The level of participation in S6 reflects in part the level of S5 voluntary participation. But it is also affected by the opportunities for entry to higher education and by the level, or 'going rates', of Highers qualifications demanded by HE. When opportunities are plentiful the going rate is lowered, and pupils have an increased chance of fulfilling HE entry requirements in fifth year. Restricted opportunities for HE, and a higher going rate, may deter some S5 pupils altogether from attempting entry to HE, whilst others will find it necessary to take a sixth year in order to improve their Highers qualifications.

Changes in levels of S6 participation in the past twenty years or so reflect these considerations. The level rose in the late 1960s and early 1970s peaking at around 17 per cent. It fell unevenly thereafter to 13.9 per cent in 1978, and then commenced a period of continuous growth to 25.4 per cent in 1988 (SED 1990a, Table 1). The sharpest increase in the 1980s was at the beginning of the decade and coincided with the university cuts of 1981. Between 1980 and 1982 alone, S6 participation increased by 4.4 percentage points. The earlier increase, up to 1972, also coincided with reduced opportunities for qualified school leavers to enter HE (Robertson 1990a, Table 4.1).

The foregoing figures are percentages of the base of the relevant S3 year groups and do not distinguish changes in the S5 to S6 transition from the effect of changes in the transition from S4 to S5. The latter affect the composition of the S5 base and therefore the transition rate from S5 to S6. Other things being equal, the more 'mixed' the fifth year, the lower is likely to be the S5 to S6 transition rate. (In fact, on the base of all S5 volunteers, the transition rate to S6 remained around the 50 per cent mark betwen 1976 and 1986 - Robertson 1990a, Table 2.8.)

An alternative approach is to observe S5 to S6 transitions conditioned upon prior attainment, say in S4 or S5. A series of such transitions is not currently available, although it could be produced from the CES Scottish Young People's Survey (SYPS). Robertson (1990a, Table 2.4), however, has produced an analogous series from the SYPS, restricted to pupils who eventually attained two or more Highers passes, whether from S5 or S6. The effect of this restriction is to remove most, if not all, of the period change in the composition of the S5 base, and to isolate changes in the S5 to S6 transition for groups of pupils otherwise roughly comparable across time. The results (to repeat, for pupils who ultimately attained a minimum of two Highers) show that the tendency to leave from S5 rose from 28 per cent of leavers in the early 1970s to 40 per cent in 1978, and remained near that figure in 1980 (37 per cent). Over the next six years, however, the proportions leaving from S5 fell and by 1986 stood at the level they had been at in the early 1970s. Put the other way round, among pupils attaining a minimum of two Highers while at school, the proportions who had done a sixth year fell in the 1970s and rose in the 1980s.

As mentioned, the propensity to return for a sixth year varies regionally, and is lower in Strathclyde than elsewhere in Scotland (SED 1990a, Table 8). At least two factors are involved here: the readiness of HE institutions in the West of Scotland, and especially of the Universities of Glasgow and Strathclyde, to admit entrants direct from fifth year; and the capacity of schools in the Region to provide an effective sixth year. This capacity itself varies locally, between and within the Divisions of Strathclyde. No doubt both factors to some extent reinforce each other.

The 'regional effect' (Strathclyde/elsewhere) on the S5 to S6 transition has been consistently stronger among males than among females. Fifth-year males outwith Strathclyde have been most likely to stay to S6, though the proportions so doing have followed the national trend, falling in the 1970s and rising in the 1980s. Least likely to stay to S6 have been S5 females in Strathclyde. Among leavers with a minimum of two Highers in 1980, the proportions leaving from S5 were as follows: males elsewhere 26 per cent, males Strathclyde 32 per cent, females elsewhere 43 per cent, and females Strathclyde 49 per cent (Robertson 1990a, Table 2.7). Since 1980 the S5 to S6 transition has increased for all four of these groups and the group differences in transition rates have declined somewhat (*ibid.*). This decline has coincided with, and is we think directly attributable to, the rise during the 1980s in the 'going rates' of qualifications required for entry to HE.

Strong supporting evidence for this inference is the change in the 1980s in the level of S5 Highers passes above which S5 to S6 transition rates in Strathclyde diverge from (that is, fall below) those elsewhere in Scotland. Among school leavers in 1979/80 this level was three S5 Highers passes (McPherson 1984b, Figure 8.3). For the S4 cohort of 1983/84 taking S5 Highers in 1985, the level had risen to four S5 Highers passes (Robertson 1990b, Table 2.9). In other words, the rise in the going rate for entry to HE had forced more 'middling' pupils (middling on the evidence of their S5 Highers qualifications) to return to school for a sixth year in order to secure HE entry. (The rise in the going rate also forced more pupils away from HE and into the labour market - Robertson 1990a, Table 4.1.)

In contrast to the transition from S4 in 1983/84 to voluntary S5 schooling, the transition from S5 to S6 was largely 'meritocratic' in that it was little influenced by

family background factors. Father's occupation had no effect; and the level of parental education only a small effect, children of parents with only the minimum levels of schooling being slightly less likely to continue to sixth year (Robertson 1990b, section 2.2; also Robertson 1990a section 3).

2.3.4 Comments on participation

This analysis of trends has produced further evidence in support of the view that pupils' perceptions of costs, risks and benefits explain much of the variation in post-compulsory participation. Participation has risen in part because rising standards of S4 attainment have reduced the risk to pupils that post-compulsory schooling will give them nothing of benefit. Many of the factors that explain the improvements in S4 attainment are shared in common with England and Wales; changes in the occupational structure, rising levels of parental education, labour-market conditions, and school reform. But there is also evidence that the institutional structure of post-compulsory provision in Scotland translates these factors into higher participation rates rising more steeply. While other features of this structure may also be important (notably the broader spread of subjects possible, and the greater 'accessibility' of one or two Highers compared to one or two A-levels), it is difficult to resist the inference that the one-year Higher contributes to Scotland's advantage.

Would the discontinuation of a certified S5 exit point, or the substitution of the S5 Higher by a lesser qualification, reduce post-compulsory participation rates? Not necessarily. The rise in S5 to S6 transition rates in the 1980s could be argued to show that at least some pupils are 'indifferent' to the choice between one or two years post-compulsory schooling - if they have to take two post-compulsory years to qualify for HE, they will.

There are however, three counter arguments. First, the decision to enter S6 is arguably made in the light of the evidence not just from S4, but also from S5. How many pupils who ultimately decide to take two post-compulsory years would make that decision at the end of S4 if S5 certification were removed? As we have seen, only around one third of voluntary entrants to S5 recalled that they were firmly committed to staying to S6 when they first entered S5.

Second, the rising necessity for a second post-compulsory year in the 1980s increased the S5 to S6 transition. But this increase coincided with increased rates of transition to the labour market both from S5 and from S6. This does not increase confidence that a rise in the S5 to S6 transition will necessarily boost levels of particiation in HE. On the other hand, restrictions on HE opportunity are at least part of the explanation for the rise in labour-market entry. We also note that we have not yet investigated the effect of the rising necessity for a sixth year in the 1980s on the most important transition of all, that from S4 to S5. We plan to address this in the fourth report.

Third, and perhaps most important, a two-year Higher could force an earlier, and probably more irreversible, choice between school and FE. At present relatively few Scottish 16 year-olds enter full-time NAFE at 16, although many who stay on at school subsequently transfer to NAFE after S5 or S6. The flexibility of the present system encourages young people to remain in the mainstream of general education, and keep their options open for longer. Even if a two-year Higher did not affect overall participation rates after S4, it would almost certainly encourage a redistribution of that participation in the direction of the English system. Many 16 year olds who currently continue at school would enter FE instead; fewer would transfer to FE at 17 or 18; S5 and S6 would become the preserve of a smaller more 'academic' minority confident enough to commit themselves to a two-year Higher course at 16 years. The FE route would expand, and become an alternative to compulsory schooling rather than an add-on to it. Since the FE route is a much less dependable means of access to higher education than the school route, this would almost certainly result in a reduction, *ceteris paribus*, in participation in higher education.

Finally, the trends in the S5 to S6 transition are important to a wholly different argument, one made in terms not of participation but of choice. It is an argument that directly addresses a question posed by the Howie committee (see Appendix to this report). Question 3 asks:

> Does the Scottish system impose on pupils the transition to higher education or professional training at too early an age?

In the more favourable opportunity structure of the later 1970s, higher proportions of

qualified pupils than today chose to leave school from fifth year. This choice was, and still is, exercised more often by females and by pupils in the west of Scotland. Many pupils, of course, chose to remain to sixth year even when the option of a fifth-year transition to HE was more readily available. But should the structure of post-compulsory provision be modelled on the norm of the male pupil outwith Strathclyde?

3. Attainment

3.1 Overall outcomes

In 1987/88, 44 per cent of school leavers attained a minimum of five O/S awards at 1-3. Over a third (36 per cent) passed Highers, 28 per cent passing at least two, 23 per cent at least three, 17 per cent at least four and 12 per cent at least five. Gender differences were quite large. Forty per cent of girls passed at least one Higher compared with 32 per cent of boys. Twenty five per cent of girls passed at least three Highers compared with 21 per cent of boys. Nine per cent of leavers (31 per cent of S6 leavers) had taken the CSYS (SED 1989b, Tables 8, 10A and 10B).

3.2 Courses and attainment in fifth year

Robertson (1990b) provides information on courses and attainment in fifth year for the session 1984/85 (Robertson 1990b). This was before Standard Grade and National Certificate modules could have any impact. The broad picture is of a four- or five-subject course for the majority of S5 volunteers based on permutations of SCE Highers and O grades. The range of permutations is striking and reflects the mixed nature of S5. For example, a quarter of S5 volunteers (27 per cent) studied four or five Highers with no O grades, whilst over a third took four or fewer Highers combined with varying numbers of O grades. Put another way, both Highers and O grades had a major role in fifth year. All but 17 per cent of the S5 volunteers studied at least one Higher, and 60 per cent studied at least three Highers. Sixty per cent studied O grades, over a third (37 per cent) taking at least two (Robertson 1990b, Table 4.1).

As to attainment, a quarter of S5 volunteers (24.9 per cent) passed at least four Highers at the end of S5, and over a third passed at least three (36.1 per cent). On the base of the 1983/84 S4 year cohort, this means that about 18 per cent of the year group had achieved the minimum qualification for entry to higher education (three or more Highers) by the end of fifth year. A further third of S5 volunteers (30.6 per cent) had 'kept in touch' with the academic mainstream by passing one or two Highers. However, the remaining third of S5 volunteers passed no Highers (half of these because they had not studied any Highers) (*ibid.*).

Evidence from a cohort that was in S5 two years later, in 1986/87, suggests that National Certificate modules were taking a place in the fifth-year curriculum similar to that of O grades. Just over a quarter of S5 volunteers (as at Spring) took NC modules (usually one or two), but pupils with few or no S4 O/S awards at 1-3 were much more likely to do so than pupils with better S4 attainments (Croxford, Howieson and Raffe 1990, Table 17). If it remains the case that Standard grade courses are not generally to be provided in fifth year, then it is likely that larger proportions of moderately qualified S5 volunteers will take NC modules, and take more of them.

3.3 Courses and attainment in sixth year

A third of S5 volunteers with fewer than two S5 Highers passes continued to sixth year in 1985/86, as did about six out of ten of those with each of two, three, four, or five or more passes. Like the fifth year, therefore, the sixth year also receives pupils with a wide range of prior attainments; and, like the fifth year, it is characterised by a range of course permutations.

In 1985/86, 86 per cent of S6 pupils took at least one Higher and 68 per cent at least two; 35 per cent took at least one CSYS, six per cent took A levels, and 41 per cent took at least one O grade. Six out of ten S6 pupils in 1985/86 studied only Highers (with or without O grades); two out of ten combined Highers with the CSYS or A levels; and two out of ten took only the CSYS or A levels. Of those taking Highers, 43 per cent also took at least one O grade, and about 40 per cent repeated at Higher grade in S6 subjects already taken at Higher grade in S5 (Robertson 1990b, Tables 4.6 and 4.9). This situation was largely unchanged from that reported by McPherson (1984b) for the S6 of 1979/80.

The combinations of courses taken in S6 were strongly influenced by attainment in S5. As one might expect, courses for the CSYS and the A level were more commonly taken by pupils with better S5 attainments. The lower the S5 attainment, the more likely was the S6 pupil either to attempt a new Higher(s) in S6 or to repeat a Higher(s) in the attempt to improve grades. This suggests that it is weaker pupils who use the options of repeating Highers or of deferring a first presentation at Highers in a subject until S6.

What are the merits of these options? In the absence of recent research, some findings from S6 pupils in 1979/80 are pertinent. In many subjects, S6 pupils who deferred to S6 their first attempt at that subject at Higher grade had lower S4 attainments than pupils who repeated an S5 attempt. This, however, seems to be true only of subjects that were commonly taken for the first time in S5. English, mathematics, French, chemistry and physics are instances. In these subjects, a repeat presentation at Highers boosted attainment more than did a deferred presentation made for the first time in S6. Patterns for geography and history are different: they were more commonly taken for the first time in S6; repeat presenters had lower S4 attainments than deferred presenters; and deferred presentation boosted S6 attainment more than repeat presentation (Blackburn 1979; Pascoe 1979). One conclusion might be that these results reflect modal patterns of school provision. A more cautious conclusion would be that there is no one best strategy for maximising grades achieved in S6.

This said, the large majority (88 per cent) of S6 pupils in 1985/86 who repeated Highers improved their grades in at least one subject, and the majority improved their grades in all the subjects they repeated (Robertson 1990b, Table 4.10; see also Taylor 1978). The net effect of sixth-year Highers presentations on the proportion of the 1983/84 S4 cohort qualifying for higher education with Highers gained at school was to increase that proportion from around 18 per cent at the end of S5 to around 21 per cent at the end of S6.

The sixth year not only helps pupils to improve their grades, it also allows them to extend their coverage of the Highers curriculum. Only a minority of pupils attempting Highers study five Highers courses in their fifth year. By the end of the second post-compulsory year, the majority of Highers pupils (whether fifth- or sixth-year leavers) have studied at least five Highers (Gray, McPherson and Raffe 1983, chapter 5). One-year courses in the sixth year, whether at Highers or at other levels, can therefore add an element of flexibility to the curriculum.

3.4 Trends and comparisons in overall attainment

Between the mid 1960s and the early 1970s levels of Highers attainment rose. There was a fall in the mid 1970s, followed by a sharp recovery up to the early 1980s, especially at the one plus and three plus Highers levels. In the mid 1980s rates of

improvement were slower, but they steepened again in 1986/87 (SED 1989b, Chart 2 and Table 1).

The trends in Scotland are in contrast with those in England and Wales in three respects. First, as mentioned, HE qualification rates (three plus Highers or two plus A-levels) have always been higher in Scotland. Second, the rate of growth since 1979 in the proportion of school or college leavers qualifying for HE has also been higher in Scotland. Third, females in Scotland have a substantially higher qualification rate than males. In England and Wales the converse is true, and both the male and female proportions are lower than those for Scotland (Pearson, Pike, Gordon and Weyman 1989).

The rise in levels of participation has 'broadened' the base of pupils in post-compulsory schooling in the 1980s. For statistical reasons, this change in the base has led to a slight decline in the proportions of leavers from the post-compulsory stages with Highers. (This change does not necessarily imply a change in pass rates in individual subjects.) Among S5 volunteers leaving from S5 in 1978, 47.4 per cent held two or more Highers. This percentage had fallen to 36 per cent by 1986. The comparable percentages for S6 leavers were 85.2 per cent falling to 81.0 per cent (Robertson 1990a, Table 2.1). Nevertheless, it remains the case that the majority of S5 leavers are not qualified for higher education, whereas the majority of S6 leavers are.

3.5 Comments on attainment

It is not surprising that patterns and trends in respect of attainment are similar to those in respect of participation. Many of the explanations are common, and also apply both north and south of the Border.

What this section has illustrated, however, is the way in which the structure of qualifications in Scotland maintains participation and attainment at higher levels than in England and Wales, in particular by attenuating the conflict between standards (failure) and participation (success) that characterises the A-level system. Standards in individual Highers examinations can be kept high, but without reducing participation to the level of England and Wales, because pupils can and do make fine adjustments to the

difficulty and pacing of their courses. A wide range of permutations of Highers and O grade courses has characterised fifth year, including decisions about deferred presentations, sometimes made as a result of fifth-year preliminary examinations. In sixth year the range of permutations is even more extensive. Thus, when pupils decide on the costs and benefits of extended participation, they can minimise the risk that they will not achieve some success; and they can review their commitment in the light of unfolding evidence of their success and future potential.

Even before the introduction of the National Certificate, therefore, there was a sense in which the Scottish system was closer to a modular and criterion-referenced system than that in England and Wales. A larger number of relatively short courses are provided in Scotland over a greater range of levels; and pupils are more commonly certified for what they can achieve at some level or other, not punished for failing to achieve at a single, relatively high level and in a period of time that is fixed for all candidates.

The one-year Higher is important, therefore, not only because it is short, but also because, being short, it leaves space for alternatives.

4. Destinations after school

Around seven out of ten school applicants to higher education are successful. This means that the factors affecting entry are broadly similar to those affecting application. This section is mainly concerned with entry, but we comment later on particular features of the applications process, and also on progress after entry.

4.1 Routes to higher education

The most recent information on completed transitions through and from school comes from the SYPS cohort of pupils who were in S4 in 1983/84 and who were followed up to 19.5 years approximately (autumn 1987). By October 1985 (that is, in the autumn after the S5 stage), two thirds (67.7 per cent) had left full-time education. One fifth was in school (S6 - 20.4 per cent) and one tenth in full-time NAFE (9.3 per cent). Only 2.6 per cent had entered full-time higher education direct from fifth year. Two years later, in October 1987, 15.9 per cent were in HE and 2.8 per cent in NAFE, the remainder having left full-time education. On the base of a complete year-stage cohort of pupils, therefore, the proportion of pupils moving direct from S5 to HE is relatively unimportant (2.6 per cent of pupils), as it also is when expressed on the base of all S5 volunteers (5.8 per cent) (Robertson 1990b, section 2).

These percentages express outflows from school. Higher education, however, is equally concerned with *inflows* to HE. When expressed on the base of all students from the cohort who were in HE at 19.5 years, leaving school at the S5 stage emerges as more important, Robertson (1990b) has identified four principal routes to HE taken by the 1983/84 S4 cohort. The routes, and the percentages of eventual entrants to HE who took them, were as follows:

direct S5	16	
direct S6	73	
taken CSYS		42
not taken CSYS		31
S5 *via* FE	7	
S5 *via* other	5	

(In fact the direct S6 route may contain some S6 leavers who entered HE indirectly after a further year out of school.) S5 leavers comprised 18 per cent of entrants to HE direct from school (16 ÷ 89 x 100), and 28 per cent of all entrants, direct and indirect, by 19.5 years. Thus, even though the transition to HE from S5 has become less common in recent years than the transition from to HE from S6, the S5 route remains important both as a source of entrants direct from school (16 per cent of the cohort in HE) and as a source of indirect entrants (12 per cent of the cohort in HE).

The attainments and other characteristics of entrants to higher education taking each of the four routes differed in ways that reflect the range of choices open to pupils at the end of S5. The direct S5 entrants had the highest school attainments both in S4, and also in S5 where 84 per cent passed a minimum of four Highers. Among direct S6 entrants to HE only 34 per cent had reached or surpassed this level in S5; and the proportions were even lower among the indirect entrants from S5 *via* FE (12 per cent) and the indirect entrants from S5 *via* other routes (9 per cent) (Robertson 1990b, Table 4.2). Interestingly, on the criterion of attainments at the end of S4, the direct S5 group was clearly better qualified than the three other groups, whose S4 attainments resembled each others'. This pattern of transitions after S4 suggests that the two indirect routes to HE at the end of S5 were taken mainly by pupils whose S4 attainments opened up some possibility of entry to HE but who then performed relatively badly in S5.

There were no differences between the four groups in the proportions of males and females who used them. As might be expected, Strathclyde pupils were over-represented on the direct S5 route, and under-represented on the direct S6 route, but there was no regional difference in the use of the two indirect routes.

There are indications (the sample numbers in this instance are small) that the S5 *via* FE route was used more often by HE entrants from 'lower' social-class backgrounds, and from lower levels of parental education. For some pupils, therefore, the route *via* FE may provide an alternative to the route *via* S6, but only for a minority; the large majority of entrants to HE in the cohort, other than those direct from S5, entered directly from S6.

Among entrants to HE from S6, 58 per cent had taken CSYS courses; but CSYS-qualified entrants comprised only 42 per cent of all entrants to HE (from Robertson 1990b, Table 4.8). The CSYS has an ambivalent status as an entry qualification for higher education, but it is widely used in conditional offers made to applicants from sixth year. Although now dated, the evidence indicates that the CSYS enhances an applicant's chances of entry (McPherson and Neave 1976, chapter 4).

Entry to higher education in Scotland is meritocratic in the sense that, given the qualifications, a pupil's chances of entry are not influenced by family-background factors (Burnhill, Garner and McPherson, 1990). Women are less likely to enter degree-level courses than men (*ibid.*), but this is because they are less likely to apply. Pupils from Catholic schools are more likely to apply and enter, given the qualifications (Willms 1990).

4.2 Routes to other destinations

Destinations outwith higher education are not a major focus of this report, but they relate in several ways to the theme of participation. First, the attractions of other destinations influence pupils' decisions to enter HE or not. Second, pupils in destinations other than HE constitute a potential source of entrants to HE. Third, to the extent that 'other destinations' are reached by means of the various routes through post-compulsory schooling, their interests must figure in any proposals for reform. Fourth, if pupils are uncertain of their eventual ability to enter HE, their decisions in respect of post-compulsory education will need to balance the desire to maximise the chances of HE against the need to preserve other options should HE prove unattainable.

In this context, it is important to note that full-time employment is still the largest single post-school destination for pupils who volunteer for post-compulsory schooling. Among the S5 volunteers from the 1983/84 S4 cohort, almost half (46 per cent) were in a full-time job in autumn 1987. Thirty seven per cent were in HE and a further five per cent in NAFE (the remaining 12 per cent were distributed over various destinations, principally unemployment) (Furlong and Raffe 1989, Table 2.1). Of those who had stayed on to S6, more than a quarter (27 per cent) were in full-time employment in autumn 1987 (*ibid.*, Table 2.3). These figures confirm that the

choice between continuing education and labour-market entry both at the end of S4 and at the end of S5 is likely to be a major consideration for significant proportions of entrants to post-compulsory schooling - possibly for half or more.

Half the entrants to the labour market from S5 in 1985, were by autumn 1987 either in 'managerial and professional' occupations or in 'clerical and secretarial' occupations; so too by this date were almost three quarters of S6 leavers in 1986 (*ibid.*, Table 4.12). Three quarters of labour-market entrants with three or more Highers passes entered these two occupational areas, as did almost two-thirds of those with one or two Highers passes (*ibid.*, Table 4.4). The 'managerial and professional' area recruited primarily from S5, S6 and NAFE, but not direct from S4. The 'clerical and secretarial' area recruited both from S5 and S6, but also *via* the YTS (*ibid.*, Table 4.18).

The one-year Higher clearly has a role in recruitment to these occupations, and we may reasonably infer that the prospect of favoured labour-market entry, whether from S5 or S6, will be regarded as an insurance by many pupils, especially pupils of middling S4 attainment, when they assess the costs, risks and benefits of staying on at school after S4. That there is a risk for such pupils is apparent in the destinations of male leavers from summer S5 or from S6 who have failed significantly to improve on their S4 qualifications. Such pupils tend to have unemployment rates that are higher either than their qualified contemporaries leaving from S5 or S6, or than their contemporaries who left from S4 with S4 qualifications comparable at that stage to their own (Raffe 1984a). This pattern is not found among females.

4.3 Trends in destinations

As mentioned earlier, the participation of young Scots in HE increased in the 1980s, the API rising from 18.0 in 1980/81 to 20.9 in 1987/88 (SED 1989a, Table 15). This increase was driven mainly by rising levels of attainment in the schools. Had increases in HE provision matched the rise in attainment, the API would have risen more steeply. As it was, the chances that a qualified young person (with three or more Highers) would enter HE fell annually, from a level on the Qualified Participation Index (QPI) of 85.9 per cent in 1980/81, to 78.0 per cent in 1983/84. They rose annually

thereafter but, standing as they did at 83.1 per cent in 1987/88, they had not regained the level at which they had stood at the beginning of the decade (*ibid.*, Table 14).[4]

Provision of public-sector HE places increased in the 1980s but not sufficiently to compensate for the decline in opportunities for entry to university. The API for universities fell from 8.9 per cent in 1980-81 to 7.7 per cent in 1983/84 and fluctuated annually thereafter to stand at 8.4 per cent in 1987/88 (*ibid.*, Table 15). The QPI for universities fell annually from 44.5 per cent in 1980/81 to 34.0 per cent in 1983/84. It rose annually thereafter, but in 1987/88 still stood well below the level of 1980/81 at only 36.4 per cent (*ibid.*, Table 14).

These trends underline the importance of the participation issue not just for the universities but for all higher education. They also, as we have indicated earlier, do much to explain both the rise in the S5 to S6 transition in the 1980s and the accompanying fall in the transitions to higher education both from S5 and from S6 (Robertson 1990a, Tables 2.4 and 4.1). To repeat, the coincidence of these trends suggests that pupils' preferences as between a one-year and a two-year Higher are elastic: if it becomes necessary to take two years to qualify for higher education, some pupils who would otherwise have preferred to take only one year are prepared to do so; but others are not, and they leave school at the end of S5. Whether a growing proportion of these are then prepared to try for entry to HE *via* an indirect route is an open question which we cannot answer because we do not yet have a cohort series that allows us to observe changes over time in the use of indirect routes to HE.

These trends in transitions through school and towards higher education have naturally influenced the composition of inflows to higher education. Here we are able to document only trends in inflows direct from school. Among all HE entrants direct from school, the proportion coming from S5 stood at around one fifth between 1962 and 1972. It then rose to almost 30 per cent by the end of the 1970s, thereafter

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[4] The Scottish QPI is the number of Scottish-domiciled entrants aged under 21 years to full-time higher education in the UK with three or more Highers passes, expressed as a percentage of the qualified leavers (with three or more Highers passes) from the previous academic session.

falling steadily until by 1986 it was back at the one-fifth level at which it had been in the early 1960s (Robertson 1990a, Table 3.1).

In terms of percentage points, the extent of these changes was not the same for males and females in Strathclyde and elsewhere: the greatest absolute rise and fall was for Strathclyde males. The result was that by 1986, the S5/S6 balance of inflows to higher education was similar among females in Strathclyde and elsewhere, and males in Strathclyde: just over a fifth of HE entrants from each of these three groups entered from S5; but the percentage for males elsewhere was only 14 per cent (*ibid.*, Table 3.4).

As regards the subset of HE entrants who went to university, the position was somewhat different: the changes over the period 1962 - 1986 were larger, and varied by area (Strathclyde/elsewhere). Thus, for university entrants outwith Strathclyde, neither the percentage of males nor that of females entering university direct from fifth year was ever higher than 14 per cent at any time between 1962 and 1986. Among Strathclyde males, however, it rose from 15 per cent in 1962 to 45 per cent in 1980, falling back to 25 per cent in 1986. Among females the proportion of direct entrants from S5 rose from 17 per cent in 1962 to 42 per cent in 1980, falling to 31 per cent in 1986. The distinctiveness of the Strathclyde area in this respect was unchanged over the period 1962 - 1986 (Robertson 1990a, section 3).

From this discussion of the S5/S6 composition of entry to higher education and to the university sector of HE, we can conclude two things. First, fifth-year entry to university is a long-standing feature of arrangements in the west of Scotland even though its level may fluctuate with national changes in the opportunity to enter university. Second, the picture is similar in respect of all higher education (where it differs it is because females outwith Strathclyde are more likely than males outwith Strathclyde to enter public-sector HE from S5, but nevertheless have levels of S5 entry to university that are low and comparable with those of males in their area (*ibid.*,)).

It is interesting that over the period 1976 - 1986 there was no change in the effects of social class and parental education on the chances of entry to university, to all degree-level courses, or to all higher education. As we have seen, these effects were substantial, but they can be explained almost entirely in terms of group differences in

SCE attainment (Burnhill, Garner and McPherson 1988, 1990). That family-background effects were unchanging over a period in which there was a substantial decline in the real value of the student grant suggests some elasticity in the demand for higher education among students from financially disadvantaged backgrounds; otherwise family-background effects on entry would have increased over time with a declining chance of entry among the 'lower' students. This conclusion is consistent with our earlier comments on the apparent elasticity of the demand for a sixth year and on the absence of marked family-background effects on the transition from S5 to S6 (section 2.3.3 above).

There has been no change in the gender effect on entry to higher education. The rise in the proportion of entrants who are female can be explained mainly in terms of changes in participation and attainment at school.

4.4 Applications to higher education

As mentioned, the factors that explain a pupil's application to higher education are similar to those that explain his or her entry. The main factor is the qualifications attained at school. In the case of fourth-year O/S Grades and fifth-year Highers, these are important both in their own right and for what they tell pupils about their prospects of gaining further qualifications, whether at school or in higher education itself. The other major factor is the availability of places: other things being equal, applications are higher in subject-areas (such as science-based courses) and at times (such as the second half of the 1970s) when the supply of places is generous relative to the demand. In brief, the greater the chances that an application will be successful, the more likely it is that the application will be made (McPherson and Neave 1976, chapter 4; Burnhill and McPherson 1988).

This is not to say that other factors have no influence. There is a small gender effect on applications to university- and degree-level courses, though possibly not to all HE as a whole. Work-in-progress by Paterson at CES suggests that social class and parental education have some influence on applications; but these effects are small relative to those of school attainment and do not carry over to entry. No doubt there is also an influence from pupils' perceptions of the economic costs of HE relative to graduate earnings. But this has proved difficult to quantify (Williams and Gordon 1981)

and could not in any case explain the large changes over time in the probability that a pupil with specified school qualifications (or prospects thereof) will apply to higher education.

The evidence on applications suggests a process that is both highly meritocratic and rational, a process in which the chances of success can be estimated in advance with some precision, and then govern the subsequent decision. This is not to imply that all pupils behave in this way, nor that the decisions are made solely by pupils. Indeed, schools themselves are centrally involved in decisions on whether, when and to what their pupils should apply, and they can be presumed to guide their pupils' decisions in the light of how the pupils of the previous year had fared.

4.5 Attainment in higher education

In the past decade little research has been published on the effects of Scottish school practices on attainment in higher education. There is a body of work from the 1960s and 1970s mainly associated with the Universities of Aberdeen, Edinburgh and St Andrews, and several interesting projects have started in the past two years, two under the direction of Professor Entwistle in the Department of Education at Edinburgh University. But the published research refers mostly to situations at least ten years past, and almost exclusively to universities. This section is not, therefore, a comprehensive review of the research literature. It is fairly brief and concentrates on some principles that can be applied both to the research evidence and to other indicators of the value of Scottish schooling as a preparation for higher education.

The central principle is that the value of a particular practice, or school course, or route, must be judged in terms of its 'value-added'. The most important question is not, for example, 'how well do students who have followed a particular route to higher education do in higher education as compared to students who followed other routes?'. That is an important question. But, for the purpose of evaluating a route, the more important question is 'how well would those students have done in higher education had they followed some route other than the route they took?'. In other words, one must take account of students' potential for success in HE before they embarked on the route in question.

The 'value-added' principle has a particular application to two features that characterise routes into higher education in Scotland: their variety and their size. The variety of routes is inherent in the permutations of phasing, length and level that are allowed. Pupils are selected, and select themselves, to these routes largely in the light of their attainments to date. Thus the variety of pupils' preparations for HE (CSYS, new Highers, repeat Highers, fifth-year entry, indirect entry) is 'confounded' with differences in attainment, and therefore academic potential, that existed prior to the preparation in question.

By the 'size' of routes, we simply refer to the higher API in Scotland. Of itself, a higher API does not necessarily imply a longer 'tail' to the distribution of potential for success. But it may. If it does, then the value of a 'Scottish' as opposed to an 'English and Welsh' preparation for HE cannot be inferred simply from a comparison of success rates between students from the two systems. This is true both of comparisons between HE institutions in Scotland and those elsewhere in Britain, and of comparisons within Scottish HE institutions between students schooled in Scotland and those schooled elsewhere.

1 the direct S5 route

We know of no conclusive, or even strongly indicative, published evidence from recent years on the value of the S5 route. However, Powell's (1973) study of Scottish-educated university entrants in the early 1960s concluded

> What seems highly probable... is that, *over the whole body of students*, staying at school for a sixth year does not *in itself* lead to any notable improvement in university performance. (Powell 1973, 73, emphases in original)

Exactly the same conclusion can be inferred from Woodley's (1984) study of entrants to UK universities roughly ten years later, in 1972, 1973 and 1974. Using population statistics supplied by the Universities Statistical Record, Woodley's Table 8 shows that SCE qualified entrants aged under 18 years had marginally higher completion rates (79 per cent) than entrants aged 18 years (78 per cent) or 19 years (75 per cent). Among completers, 18 per cent of entrants aged under 18 years gained firsts or upper seconds. This compares with 19 per cent for entrants aged 18 years and 17 per cent for those aged 19 years. These are highly aggregated analyses - subject of study, for example, is

probably a better predictor of completion than age or stage at entry - but they give no support to the view that entrants from fifth year fare badly. Nor does evidence from public-sector HE. Cope, Gray and McPherson (1976) studied two nationally representative samples of entrants to primary-diploma courses in colleges of education in 1970 and 1972. Controlling for Highers attainment, they found no significant differences between entrants direct from fifth and sixth years in outcomes after three years.

The evidence quoted so far is dated, but more recent evidence suggests that the conclusions may still hold. Of the 1983/84 S4 cohort that entered university direct from S5 in October 1985, 90 per cent were still in university two years later, in October 1987 (Robertson 1990b, Table 2.3). This observation is based on a very small sample of 56 cases but, again, it does not indicate an unduly high rate of discontinuation. We emphasise, however, that the high S5 attainments of university entrants direct from S5 would lead one to expect high university success rates, unless of course sixth-year courses and an extra year of maturity have a high value-added.

2 deferred, repeated and new Highers in S6

We know of no published evidence on the impact of these options on students' attainment in HE.

3 the Certificate of Sixth Year Studies

HE entrants who hold the CSYS tend to have better SCE attainments than those who do not (the extent to which this is true of particular HE institutions will largely depend on their policies for admissions from fifth year). Students who hold the CSYS tend to do better in HE than SCE qualified students who do not hold it. But most, and in many cases all, of this advantage can be attributed to the higher attainments that characterise CSYS pupils at the very beginning of their CSYS courses. McPherson and Neave (1976) studied entrants to Edinburgh University from the Scottish sixth year in 1972. They concluded:

> Students who had taken CSYS courses either alone, or in combination with SCE courses in their sixth year, did not do any better in their first year at university when once their general ability in passing examinations had been taken into account.... Of the five individual classes in arts that were studied, only in European History did we find any advantage for the student who had

> taken the companion CSYS [History]. The picture was much the same in science.... However, there were circumstances in science in which an advantage sometimes accrued to those who had taken certain CSYS subjects...: The small contribution that was made by the CSYS to first year achievement in science seems to have been to the subsidiary mathematically-related studies of non-specialist mathematicians - the physicists, engineers and biologists. (*ibid.*, 96/97, our parenthesis)

The CSYS mathematics courses anticipated much of the content of the mathematics classes taken by students registered in physics, engineering and biology. In other words, the 'value-added' from CSYS was mainly apparent where the contents of CSYS courses overlapped with those in HE. No evidence was found in this or, so far as we are aware, in any other study, that the distinctive pedagogies of the CSYS boosted HE attainment.

4 Scottish/English differences within Scottish HE institutions

In effect the evidence under this heading relates almost exclusively to the Universities of Aberdeen, Edinburgh and St Andrews. Studies in all three institutions using various outcome measures have reported higher success rates at the end of first year for students schooled in an English or A-level system. This seems to be a widespread phenomenon that has persisted over many years (Craig and Duff 1961; Duncan and Vandome 1971; Nisbet and Welsh 1973, University of St Andrews 1975; McPherson 1975; Diamond 1980). It is not clear, however, that this differential persists after first year. Nor is there a single explanation for the differential in first year.

Several general observations can, however, be made, though it must be emphasised again that no generalisation in this area has been tested recently or across a wide range of institutions and courses. First, it is clear that, compared to English entrants, Scots entrants from S6 have had a less demanding final year at school, and find the first year at university more demanding. Second, the pedagogy of first-year university courses is less familiar to Scots than to English entrants. Third, the same may be true of the content of courses, though subject variations are so great here that any generalisation is of limited value. Fourth, there is some evidence that these features matter more for first-year attainment in science subjects, and possibly other 'linear' subjects such as languages, than in non-science subjects (McPherson 1975; Quinault and Diamond 1978, 1979; Diamond 1980). Finally, because

of problems in equating SCE and GCE attainment, no study has adequately controlled for prior ability/attainment when testing hypotheses in this area.

5 differences between Scottish and English HE institutions

The only recent and systematic comparisons known to us are for the university sector. Johnes and Taylor (1989) studied the success over six years of the two entry cohorts of 1979 and 1980 to universities in the UK. With one exception (the 1980 entry to St Andrews), they found completion rates in the Scottish universities that were lower than the UK average, and they speculated that this difference might be owing to the younger average age on entry of Scottish students (they did not distinguish between age and school-stage at entry).

The data for this study may have some defects, though it is possible, nevertheless, that completion rates in Scotland are lower. Two points, however, should be made here. The first is that, even if the data were wholly valid, the degree-completion rate in Scotland would still be substantially higher than elsewhere in the UK when expressed on the base of all people in the appropriate year groups. Second, the methods of analysis and many of the assumptions in this study are defective and discredited (McPherson and Paterson 1990; Johnes and Taylor 1990). The SED has recently commissioned research from John Cowan of the Open University (Scotland) and Alan Woodley of the Open University (England) which should be able to mitigate these shortcomings.

Perhaps the safest conclusion from the research evidence on attainment in HE is that it does not indicate for or against the thesis that the fifth-year Higher affects the quality of students' participation. But this is as much a comment on the paucity and quality of up-to-date research as it is a reflection of the reality.

4.6 Comments on destinations

Entry to higher education in Scotland emerges from this discussion as an essentially meritocratic process characterised by rational decision-making by pupils who assess costs, risks and benefits within a framework of universal rules governing entry, the main rule being that applicants queue for admission in descending order of qualifications.

This, of course, is to overstate the case in a number of ways. First 'ascriptive'

(non-meritocratic) factors, such as family background, have some effects on application and entry, but they are small in relation to the effect of qualifications which, in any case, are tending to improve as a result of changes in the social composition of the school population. Gender is perhaps the most important ascriptive factor influencing application and entry among qualified, or potentially qualified, pupils in any year. Despite rises in their school attainment which have led to increased entry to HE, the relative disinclination of young women to enter degree-level higher education, given their level of school attainment, has not changed in the past decade.

Second, there is a sense in which the rules governing entry are not universal across years. No less important than gender or family background in influencing entry to HE is the availability of places and the consequent point in the queue where the 'cut' is made. This in turn affects pupils' strategies, such as whether or not to return to school for a sixth year, and whether or not to try for HE at all, rather than the labour market or NAFE.

Third, there are disjunctions in the rules not only across years, but also at points in the interface between HE and the labour-market. In general, one rule is that more education improves labour-market prospects. But age-restrictions in the labour-market for 16-19 year olds mean that this is not always the case. Especially for boys with 'middling' attainments, there are still some positive incentives to leave school at 16 years.

Fourth, there is no suggestion, and it is not necessary to suggest, that this rational/meritocratic characterisation applies to all pupils. For the purposes of this report, it matters only that it should apply to enough pupils to make it important to consider how changes to the S5 Higher would change the rules of the game.

We think it does apply to enough pupils for this. Nevertheless, the implications of any change may not be straightforward. There is evidence of some elasticity in pupils' attitudes to the choice between leaving or staying at the end of S5. If the S5 Higher were simply abandoned there could be some reduction in the proportions of the year group qualifying for, and seeking, admission to HE. Because of the evidence of elasticity, however, we do not think that the reduction would be as large as the proportion that currently enters HE within two years of leaving school from S5 (currently

about five per cent of the year group, or about a quarter of all HE entrants by 19.5 years from the year group).

What can be said with certainty, because it is a matter of definition not of prognosis, is that the removal of the S5 exit point would be discriminatory and at odds with the preferences of many pupils. It is not easy to generalise about which pupils. This is because of the area and gender variations in the use of the direct and indirect S5 routes to HE, and also because of the variations in attainment - entrants to HE from S5 include many very able pupils. It is possible to say, however, that the removal of the S5 exit point would not discriminate in a major way against working-class pupils who volunteered for fifth year. At the same time, we emphasise that the one-year Higher may be disproportionately important in persuading working-class pupils to stay to fifth year in the first place. There is no evidence on this, but it is one of the hypotheses we plan to investigate in our fourth report to AUT(S). We also note here that the absence of substantial family-background effects on the transition to S6 is further evidence for the elasticity of pupils' preferences.

Finally, the evidence on destinations confirms the view that the rules of the game, as it is played in Scotland, produce higher levels of participation, rising more steeply. We have characterised these rules, relative to the A-level system, as being more concerned to reward success than to punish failure, as being more modular, more sensitive to individual differences in ability and interest, and in some ways closer to a criterion-referenced system. Would dropping the one-year Higher allow one to move yet further in this direction and produce further benefits to HE participation rates in Scotland? If not, the other arguments for change, arguments we have not discussed in this report, would need to be very persuasive indeed.

5. Summary and Discussion

5.1 Summary

This report has surveyed evidence on the relationship between the structure of post-compulsory school courses in Scotland and the level of the participation of young Scots in higher education. Material has been presented on three main themes: participation in voluntary schooling; school attainment; and entry to higher education. Woven into this presentation has been an argument about cause and effect. Paragraphs 1 to 20 restate that argument whilst paragraphs 21 onwards summarise the statistical evidence.

1. Scotland has participation rates for 16 to 18 year olds that are higher than those in England and Wales, but lower than those in many European countries. The Scottish HE participation rate is markedly higher than that for England and Wales, and, on current projections, will maintain that advantage (section 1.1, 2.1).

2. It is as certain as anything can be in social science that at least part of Scotland's advantage over England and Wales can be attributed to the fifth-year Higher (section 2 *passim*).

3. Two types of argument sustain this assertion. First, the evidence of what Scottish pupils say and do is consistent with a 'rational choice' explanation of young people's decision-making that itself receives wide support in the research literature (section 2.2). The fifth-year Higher is an instance of this rationality (see 8 below).

4. Second, three naturally occuring 'quasi-experiments' support the hypothesis that the accessibility of the fifth-year Higher enhances participation.

5. The first quasi-experiment is the comparison with the A-level system in England and Wales where there is a two-year gap between the end of compulsory schooling and the first opportunity to qualify for entry to higher education (section 2.1). Qualification rates for HE are higher in Scotland, and are increasing faster.

6. The second is the 'historical experiment' of withdrawing (in 1924) and later replacing (in 1962) an examination that lay at an intermediate point in the period between the end of compulsion and first certification for entry to higher education (that period was three years, reducing to two in 1947) (section 2.3.1). The reinstatement of an intermediate examination in 1962 in the form of the SCE O grade led directly to marked increases in voluntary participation and qualification for higher education. The fifth-year Higher has a similarly intermediate function.

7. The third is the 'quasi-experiment' of 'conscription'. For the older two-thirds of the S4 year group there is currently a one-year gap between the end of compulsion and first presentation for Highers. For the younger one third of the S4 year group that becomes eligible to leave only after one term of the fifth-year course, that gap is reduced to little more than one term. The shorter gap produces a higher rate of voluntary continuation which in turn leads to higher rates of attainment among the younger third (section 2.2).

8. There are two senses in which the 'accessibility' of the fifth-year Higher is part of the 'rationality' of a system that produces a participation rate that is high by British standards. First, it requires a commitment only of one year (and less for S5 'conscripts'). Compared with a system that first offers credible certification only two years after the end of compulsion, a one-year system provides the S4 pupil with a choice that entails fewer costs (of maintenance and of earnings foregone), and fewer risks whether of failure or of missing out on alternative options such as successful entry to the labour market.

9. In practice it is difficult to distinguish the effects on participation of this first aspect from those of the second aspect of the accessibility of the one-year Higher: namely, the fact that the Highers courses are short and leave 'space' for alternative strategies regarding the level, phasing and difficulty of the total set of courses to be attempted. (The option of taking anything between one and six Highers in any one diet also creates more space than the more restricted A-level option, but this is only partly a function of course length and, to that extent, could be preserved under a system that provided only for a two-year Higher.) The space that is created by the one-year Higher is filled

with options that are either easier than a one-year Higher (O/S grades, National Certificate modules, deferred Highers presentations) or more difficult (CSYS) (section 3).

10. Pupils differ in their preferences for a one-year or two-year compulsory course. Some (about a third of the volunteers for post-compulsory schooling) settle early on the two-year option (section 2.2). Others prefer the one-year option but are prepared to take the two years if their fifth-year performance does not meet going entry requirements. Yet others prefer to leave school at the end of fifth year whatever their fifth year attainment (sections 2.2, 2.3.3). It is not possible on this basis to say how many entrants would be lost to higher education if the fifth-year Higher were discontinued. The evidence of elasticity (sections 2.3.3, 4.3), however, allows us to say that the proportion lost would not be as high as the proportions of young HE entrants that currently enter without taking a sixth year (around 28 per cent - see para. 33 below). But the removal of the fifth-year Higher would undoubtedly turn some pupils away from higher education and towards NAFE or the labour market.

11. In this context it is relevant to note that transition rates from voluntary S5 schooling to S6 have fluctuated around the 50 per cent mark over the past decade or so (section 2.3.3) and that the labour market remains the largest single post-school destination of volunteers for S5 (section 4.2).

12. A potentially more serious effect on HE participation of discontinuing the fifth-year Higher would be through its effect on the transition from S4 to voluntary fifth-year schooling. We have no evidence on the likely size of this effect, but hope to estimate it in later work.

13. Even if total participation levels in full-time education remained unchanged, a two-year Higher could create a sharper division between academic education (mainly in school) and vocational education (mainly in college); school and college would then form alternative streams entered at 16 years, on the English model. The effect would be a smaller academic stream and consequent reduced demand for higher education.

14. We have characterised the one-year Higher as a central component of a system that attenuates the classical conflict between educational standards that are maintained by high failure rates, and educational participation that is mobilised by high rates of success. That this conflict is acute in the A-level system is agreed by contemporary commentators who include Sir Christopher Ball in his report for the Royal Society of Arts, Professor Smithers and Pamela Robinson in their study for British Petroleum, and the authors of a recent publication by the Institute for Public Policy Research (section 1.1).

15. This 'attenuating' feature of the one-year Higher is in turn crucial to the level and quality of entry to higher education in Scotland. We have characterised the events that carry a 14 or 15 year old pupil towards higher education as constituting a predominantly meritocratic process wherein pupils (or, at least, many pupils) assess costs, risks and benefits in the context of 'rules' that are universally applied. The main rule is that applicants queue for admission to HE in descending order of qualifications. The system is not wholly meritocratic, particularly in the events leading to attainment at 16 years. It is mainly attainment at this stage that matters for subsequent participation, for further attainment at school, and for eventual entry to higher education. There are gender effects on outcomes in the post-compulsory stages and also family-background effects, but these are small relative to the effects of attainment in S4 (sections 4.3, 4.4).

16. An important 'non-meritocratic' influence is the year in which the pupil happens to leave school. Restrictions on places in higher education depress applications and entry. Within any year, however, the rationing of entry is still done largely by the order of the qualifications queue.

17. As we have characterised it, the entry process poses a further dilemma for higher education. This too is a classical dilemma. It is that the events that HE institutions can most influence in the attempt to boost levels of participation are those that have least effect on the numbers of entrants. The power of HE institutions to intervene is largely constrained by the size and composition of the pool of applicants. The crucial events are those leading to attainment at 16 years which in turn drives subsequent attainment and choices (section 2.2). By

comparison with the A-level system, the virtue of the one-year Higher and of the wider range of course options of which it is a part, is that weaker attainments at 16 years do not shut off the possibility of further progress. 'Middling' pupils are given more time within the mainstream to reach a level of attainment that their more able counterparts are able to reach sooner than they.

18. The proportion of young Scots entering higher education is rising, and is projected to rise further. The projected rate of increase in Scotland will be lower than that in England and Wales. But this is merely a statistical artefact arising from the relatively low current level of HE participation in England and Wales. In terms of absolute percentage points of the age group, the Scottish advantage is projected to grow. Much of the past increase, and (because of the projection methods used by government) much of the projected increase too, can be explained by social changes that affect the whole of Britain. These changes include the increase in the proportion of children in the age group from non-manual homes (itself a function of changes both in occupational structure and fertility) and also the rise in the level of parental education (section 2.3.2).

19. Social change does not, however, guarantee that qualification levels will rise. Although the social changes we describe affect the whole of Britain, the proportion of young people who achieve or surpass the A-level qualification levels for HE (two or more passes) have remained fairly static, whereas the proportions qualifying in Scotland have increased. Furthermore, both systems are seeing a changing gender effect on continuation into post-compulsory schooling as female rates increase faster than male rates. But fewer females than males qualify for higher education through the A-level system, whereas in Scotland, the female qualification rate had caught up with the male rate by the mid 1970s and has since moved sharply ahead (section 3.4). In other words, institutional differences in the relations between schooling, the labour market and higher education influence the extent to which the potential in young people is released.

20. These institutional differences present themselves to young people as a structured set of opportunities each of which carries costs, risks and benefits which vary from individual to individual. The pupils who are most influenced by

the structure of opportunities are 'middling' pupils whose characteristics at any one educational stage put them on the margins of probable success at the next stage (section 2.2). This feature helps one understand how the institutional structure of provision has mediated the potential benefits of social change in Scotland and England. If we make the not unreasonable assumption that the distribution of potential for higher education very roughly approximates a normal distribution, (that is, has more pupils towards the centre than at either extreme), then it follows that, the further down the hierarchy (or queue) of potential one locates the cut-off for entry to HE, the more young people there will be at the margins of the cut off. Put another way, the greater the expansion of HE provision and participation up to, say, half the age group, the more 'middling' young people there will be on the margins of HE entry, and open to the effects of the opportunity structure. From this it would follow that the potential of the one-year Higher to mobilise participation in the next decade or two will be greater than its actual successes in the past two decades.

21. The proportions of pupils returning voluntarily to S5 have risen fairly consistently since the early 1970s to stand now at just over half. Youth unemployment has at times accelerated the rise but does not account for the underlying upward trend (2.3.2).

22. On entry to S5, the majority of S5 volunteers have not firmly decided to stay to sixth year. Their main reason for entry is the pursuit of further qualifications whether for entry to higher education or the labour market. During the course of S5 many pupils change their minds about staying to S6 (section 2.2).

23. About one third of S5 volunteers (or about 18 per cent of the age group) currently 'qualifies' for higher education by passing three or more Highers at the end of S5. A further third 'keep in touch' with the academic mainstream by passing one or two Highers (section 3.2). Of the remaining third who pass no Highers, half have studied for at least one Higher. This illustrates the increasingly 'mixed' nature of the fifth year. SCE O grade courses and, more recently, National Certificate modules, supplement the S5 curriculum of pupils who do not take five Highers courses (section 3.2).

24. With one major qualification, the main factor driving pupils' decisions at the end of S5 is their S5 attainment. The greater the number of Highers passes, the more likely they are to return to S6 (section 2.2).

25. The main exception is in Strathclyde where there is a long-established pattern of entry to higher education, and especially to university, from fifth year rather than sixth year (section 2.3.3).

26. The incidence of entry to higher education from fifth year increased in the 1970s and decreased in the early and middle years of the 1980s. These trends coincided with, and are directly attributable to, an easing of competition for HE entry in the 1970s and an intensification of that competition in the 1980s (section 2.3.3).

27. Going rates for HE entry increased in the 1980s with three consequences for transitions from fifth year. First, as mentioned, transitions from S5 to HE fell. Second, transitions to S6 increased. Third, transitions to the labour market also increased (sections 2.3.3, 4.3).

28. These trends in transitions from S5 were no different in Strathclyde than elsewhere in Scotland. The transition in Strathclyde from S5 to HE became less common in the 1980s, but it still exceeded the rate elsewhere in Scotland, which had also dropped (section 2.3.3).

29. Like S5, S6 admits pupils over a wide range of prior attainments. Most entrants stay on mainly because they wish to improve their qualifications. Half believe that their S5 qualifications are inadequate and a further quarter are uncertain. Only a quarter believe that they have already achieved the qualifications they require (section 2.2).

30. The range of courses reflects this diversity. The dominant qualification is still the Higher. Two thirds of S6 pupils take at least two Highers in S6; four out of ten repeat at least one S5 Highers presentation; four out of ten take at least one O grade; a third take the CSYS; six per cent take A levels (section 3.3).

31. The permutations of courses taken in S6 are strongly influenced by attainment in S5. CSYS or A level courses are taken mainly by the better qualified. The lower the S5 attainment the more likely is the pupil to attempt Highers, whether new or repeated (section 3.3).

32. The large majority of pupils who repeated Highers presentations in S6 improved their grades (section 3.3). Nevertheless, the sixth year at school does not add much to the proportion of the year group who reach or surpass the minimum qualifications for entry to higher education. It currently raises that proportion from around 18 per cent to around 21 per cent.

33. Most Scottish-educated entrants to higher education by age 19.5 years have followed one of four routes. Three of these routes lead from S5. Sixteen per cent enter HE direct from S5; seven per cent enter from further education having left school in S5; and a further five per cent enter from other locations also having left school in S5. Seventy-three per cent enter from S6, mostly directly. Of these, 42 per cent have taken the CSYS and 31 per cent have not. These figures are based on the routes to HE followed by the cohort that was in S4 in 1983/84 (section 4.1).

34. Entrants to HE directly from S5 tend to have higher attainments by the end of S5 than entrants *via* the three other routes. There is some evidence that indirect entrants include many pupils who have failed to fulfil in S5 the promise they showed in S4. In general, gender and family background have little if any influence on the routes pupils take, though there are indications that the S5 *via* FE route may be a little more attractive to working-class pupils than the other routes (section 4.1).

35. Almost half the pupils from the 1983/84 S4 cohort who chose to stay on at school were in a job in Autumn 1987, and 37 per cent were in higher education. Most summer S5 leavers entered the labour market, though there was also a substantial entry to NAFE. Most S6 leavers entered higher education. By Autumn 1987, half the labour market entrants from S5 were in 'managerial and professional' or 'clerical and secretarial' occupations; so too were three quarters of labour-market entrants from S6, many of whom held Highers passes (section 4.2).

36. Pupils' preferences for or against higher education are elastic: they tend to apply to higher education if they believe that their application is likely to be successful. This means that pupils are less likely to apply to HE when the supply of HE places is restricted relative to the numbers of qualified young people (section 4.4).

37. In the past decade, little research has been published on the effects of Scottish schooling on attainment in higher education (section 4.5). The CSYS may boost attainment where it is based on work that students will repeat in HE. Other than that, there is no research evidence that entry from fifth year *ceteris paribus* results in lower HE attainment. But this is as much a comment on the paucity of the research as on the reality. It is important that studies of this topic have adequate controls for the variations in prior attainment that characterise the different entry routes to higher education.

5.2 Discussion

We emphasise that this report does not deal with all of the questions and evidence that Howie must consider. Our main concern has been with participation, especially participation in higher education. Two thirds of a school year group now start fifth year, and half of a year group complete it. But only just over a fifth of the year group currently enters full-time higher education by the age of 21 years, and less than one third continues with any form of full-time course after school. Howie has a broader canvas to consider. Indeed, one of the committee's questions implies that it may be attempting to frame a post-compulsory curriculum for all young people (see Appendix, question 5). At the same time, however, the questions also suggest that the issue of participation in higher education may not be uppermost in its mind.

Because we have focused on this issue to the exclusion of others, it would not be appropriate for us to rehearse here the merits of alternative institutional solutions to the problem of post-compulsory school provision, including the solutions canvassed by Howie (Appendix, questions 4 and 6). This would require consideration of a wider range of evidence. Equally, and for the same reasons, it would be tendentious for us to argue, solely on the basis of the evidence considered here, for the retention or for the abolition of the one-year Higher. Our main concern has been to illustrate the ways in which the one-year Higher boosts participation rates. Whether a comparable or

greater boost could be achieved by alternative institutional arrangements is a separate question, though a question that must be addressed by any blueprint for change.

Although the Howie remit is broad, our analysis suggests that, in one respect, it may not be broad enough. The remit is school education. Howie must 'take account' of developments in further and higher education, but may not prescribe for them. Our analysis shows that the non-advanced further education sector in Scotland is distinctive. Compared to NAFE in England and Wales, it serves more school leavers who already hold post-compulsory school qualifications; it is a bridge to higher education for a not insignificant number of HE entrants; but it does not, as in England and Wales, provide a substantial alternative to continued schooling which, throughout the UK, is the main route to higher education. Any solution for the schools that weakened these characteristics of NAFE in Scotland could damage HE participation rates.

This aspect of Scottish NAFE is one of a number of features or functions of the S5 Higher that help to boost participation rates and that should therefore be preserved in any revised arrangement. A second is that Scotland has a longer 'academic tail' than England and Wales. Some 15 per cent of the age group have passed one or two Highers by the end of fifth year. Very few of them will enter higher education directly with these qualifications. But they are still in touch with the academic mainstream and have already had some success in it. Well over half of them continue with some form of full-time education after fifth year, many at school, but with significant numbers in NAFE as well.

Third, the overlap of academic and vocational tracks is a feature of provision within school as well. Under an A-level system there is little scope for overlap that does not compromise a pupil's academic prospects. Under the Highers system, by contrast, the pupil selects between one and five one-year Highers units, and also has the option of taking further units, or repeating units, in the following year at school. There is more scope, therefore, both to adjust the demands of the academic course to individual capability, and to marry it to other types of work, whilst keeping open the prospect of entry to higher education.

It is worth identifying this piecemeal but incremental aspect of certification in

Scotland as a fourth feature in its own right. In any changed arrangement, initial certification should remain short-term, credible to employers, but also capable of leading to more advanced certification that is credible both to employers and to selectors for higher education. It should allow pupils to change their minds over the content, level, phasing and location of subsequent study, and it should allow for individual variations in all of these.

As far as participation in higher education is concerned, the acid test for any change in current arrangements is the effect on 'middling pupils', by which we mean pupils in and around the threshold of attainment that leads to the next stage of education. In respect of entry to higher education, an operational definition of 'middling pupils' would currently be 'those who embark on Highers courses but fail to achieve three or more passes at their first attempt' - roughly the 25th to 40th percentiles of the age group.

Especially for these pupils, the discontinuation of the one-year Higher could force an earlier and probably more irreversible choice for or against the 'academic mainstream'. Middling pupils who currently continue at school at 16 years would at best enter FE instead, and S6 would become the preserve of a smaller group that was confident enough at 16 years to commit itself to a two-year course at school. There is a further danger that, to counteract this possibility, the standard of a two-year Higher would be set low to encourage 'middling' pupils to stay on.

A wholly modular structure of provision might obviate this danger. What would be undesirable, however, would be a modular system, examined after one post-compulsory year, that ran in parallel to a two-year course constructed on different principles. Equally undesirable would be parallel courses constructed on different principles of assessment and certification (for example a criterion-referenced, non-graded course parallel to a course that was norm-referenced and graded). Parallel courses of this type would entail selection and tracking at the beginning of S5 and lead to similar effects in S3 and S4. Tracking and selection are likely to reduce participation rates in higher education.

Appendix

Questions circulated by the Howie Committee in July 1990

Fifth and Sixth Year Courses: Key Questions

1. What should be the principal aims of S5 and S6 courses? What should pupils derive in terms of knowledge, skills, attitudes?

2. What are the virtues of the present arrangements? What are the arrangements [arguments?] for retaining them in whole or in part?

3. Does the Scottish system impose on pupils the transition to higher education or professional training at too early an age?

4. What would be the implications of a 2 year S5/S6 curriculum with an S6 end-point?

5. What broad pattern of an S5/S6 curriculum could comprehend the whole pupil population and how should such a curriculum be assessed? Is it desirable or necessary to continue the principles of progression and differentiation which underlie the 5-14 and Standard Grade programmes?

6. A number of main forms of curriculum and associated certification can be envisaged for S5 and S6, eg:

   - a merger of Higher and CSYS;
   - a modular programme with ongoing and terminal certification;
   - a 2 year Higher with some kind of S5 exit point.

   What advantages and disadvantages seem inherent in each of the above?
   What alternative models can be envisaged?
   Should levels of attainment be related to stages of schooling?

7. How can the best pedagogic practice be reconciled with user demands for rigorous assessment. What role is there for internal assessment?

8. Should school education be a general or specific preparation for higher education and other outlets for S5 and S6 pupils? Should courses emphasise very specific content or more general intellectual skills?

9. What role is there in S5 and S6 for courses which:

   - develop core skills (eg communication, problem-solving, etc)
   - including compulsory elements;
   - lead to a group certificate?
   - are not certified?

10. Should S5/S6 curricula be constructed in terms of subjects or modes? Should subjects appear at differentiated levels? Should discrete course packages be designed into the provision?

11. Should the curriculum embrace a spectrum of provision from 'academic' to 'vocational' courses? What should be the relative emphasis? Should pupils be able to opt for a predominantly academic, predominantly vocational or mixed provision? Should provision be targeted at differentiated groups of pupils?

12. What should be the relationship between S5 and S6 school courses and SCOTVEC's National Certificate (and perhaps Advanced Course) provision?

13. How should S5 and S6 provision relate to England's system of A Levels and AS Levels and to other European qualifications?

14. Should pupils pursue the S5/S6 curriculum exclusively in school or should movement to (say) FE be possible with curricular continuity?

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